

**I CLAIM AS MY INVENTION:**

1. A rotating anode for an x-ray tube comprising:

an anode body composed of composite fiber material, including fibers having a preferred heat conductivity in a longitudinal fiber direction, and having a target surface with a focal ring, said anode body having an axis around which said anode body is rotatable;

a cooling system aligned with said axis, said anode body having a surface facing said cooling system and thermally interacting with said cooling system; and

a majority of the fibers having said preferred heat conductivity in the longitudinal direction having opposite end faces that terminate bluntly at said focal ring and at said surface, with the respective end faces in direct, heat-conducting, abutting contact with said focal ring and with said cooling system.

2. A rotating anode as claimed in claim 1 wherein more than 80% of the fibers having said preferred heat conductivity in the longitudinal direction terminate bluntly at said focal ring and at said cooling system.

3. A rotating anode as claimed in claim 1 wherein substantially all of the fibers having said preferred heat conductivity in the longitudinal direction terminate bluntly at said focal ring and at said cooling system.

4. A rotating anode as claimed in claim 1 wherein said anode body is composed of multiple parts, each part comprising a formed component and said formed components being combined with respective accurate fits to each other to form said anode body, with each component that is external to an adjacent internal

component having an inner surface that completely contacts an outer surface of said internal component.

5. A rotating anode as claimed in claim 4 wherein said anode body consists of three of said formed components.

6. A rotating anode as claimed in claim 4 wherein each of said formed components has a centrally-disposed bore therein, the respective bores being of identical size and being concentrically disposed when said formed components are combined in said anode body, said cooling system being disposed in said bores.

7. A rotating anode as claimed in claim 4 wherein each of said formed components has a focal ring having a width, the respective widths of the focal rings being substantially identical.

8. A method for producing a rotating anode for an x-ray tube comprising the steps of:

producing a plurality of shell-shaped formed components respectively of different sizes and similar geometric shapes for nesting within each other with an outer diameter of a smaller of said formed components corresponding to an inner diameter of a larger of said formed components;

producing a centrally disposed bore in each of said formed components, the respective bores having substantially identical diameters;

combining said formed components by nesting to form an anode body with said bores concentrically aligned; and

disposing a cooling system in the anode body in the bores of said formed components.

9. A method as claimed in claim 8 comprising combining said formed components in a solidification procedure.

10. A method as claimed in claim 9 comprising connecting said cooling system in said solidification procedure.

11. A method as claimed in claim 9 comprising employing a solidification procedure selected from the group consisting of carbonization and soldering.